

JHARKHAND ZOO AUTHORITY

TENDER NOTICE

FOR SUPPLY, INSTALLATION, TESTING & COMMISSIONING (SITC) OF CCTV SYSTEM AND DATA NETWORKING INCLUDING CMC ON TURN KEY BASIS

Jharkhand Zoo Authority invites sealed Tender in two bid systems, technical bid and financial bid from the experienced supplier/company/firms in sole capacity or in Joint Venture, who have proven their capabilities in both technical and financial for Supply, Installation, testing and commissioning of IP based CCTV Cameras and its accessories with data networking including CMC for Security Surveillance System at Bhagwan Birsa Biological Park. The Tender documents can be downloaded from the official web site of JZA (www.jharkhandzooauthority.org).

1.	Tender No.	CCTV-06/2016-17
2.	Availability of tender document on website or in the office	08.02.2017
3.	Last date for submission of Tender	22.02.2017 by 3.00PM
4.	Place for submission of Tender	Office of Member Secretary, Jharkhand Zoo Authority, Chakla, Ormanjhi, Ranchi-835219
5.	Pre-Bid meeting date and place	15.02.2017 at 12.15 PM in the office of Member secretary, JZA, Ormanjhi,ranchi.
6.	Date & time for opening of Tender & presentation	23.02.2017 at 11.00AM
7.	Venue for opening of Tender and presentation	PALASH MEETING HALL, Forest Colony, Doranda, Ranchi.
8.	Cost of Tender document	Rs. 1000.00
9.	EMD (To be attached with technical bid by way of DD in favour of Member Secretary, Jharkhand Zoo Authority, Ranchi.	Rs. 1.5 lakhs

E-mail: jharkhandzooauthority@gmail.com

Member Secretary,
Jharkhand Zoo Authority,
Ranchi.

TENDER DOCUMENT

Tender No – CCTV – 06 / 2016 -17

Invitation to bid for the Supply, Installation, Commissioning and Maintenance of Closed Circuit Television System with networking and CMC/AMC at BHAGAWAN BIRSA BIOLOGICAL PARK, ORMANJHI, RANCHI on turnkey basis.

Scope of work:

JZA is inviting sealed Tenders from reputed suppliers/company/firm/vender with proven track record to supply, Installation, testing and commissioning of IP based CCTV Cameras and its accessories and networking with OFC for Security Surveillance. CCTV Cameras and its accessories with data networking including CMC (for two years) & AMC (for 3 years) for monitoring of activities of its animal cages, important places and preparation of control display system at main gate etc. The product proposed to be used from reputed brands is their fields having certification like CE/FCC/ISI etc. All civil, electrical and carpentry works has to be done by the contractor.

It is reiterated that only such companies having successfully provided comprehensive IP Based CCTV Cameras and its Accessories (Security Surveillance System) in major organization of Central Government / State Government / Central Autonomous bodies /State Autonomous bodies / Central Public Undertaking / State Public Undertaking/Educational Institute may participate in the tender process. Proof in this regard should be attached. Detailed terms and conditions, tender format and specifications of the items can be downloaded from website (www.jharkhandzooauthority.org) or can be obtained from our office at Chakla, Ormanjh, Ranchi on all working days during the specified period.

Objectives of the Project

1. Live monitoring of activities of wild animals in the various enclosures and aquarium.
2. The vulnerable places, from the point of view of crime prevention & detection to check the activities of mischievous elements and overall security of the Bhagawan Birsa Biological Park premises area from violence angle as well as check alertness of Guards/Personnel on duty and their locations.
3. If an event at any location necessitates, reinforcements and alertness.
4. Immediate incident detection and effective management of JZA response.
5. Identification of disaster/emergencies and response thereon.
6. Effective monitoring of by JZA.

Proper technology should be used for changing the Control Center Location for one location to other at Bhagawan Birsa Biological Park Campus without any extra expenses.

PART-I (TECHNICAL BID)

PART-II (FINANCIAL BID)

1. Eligibility Criteria.

Bidders having experience in undertaking similar nature of work and fulfilling the following eligibility criteria can participate in the tender process.

- a) The Bidder shall be a registered supplier/company/firms in sole capacity or in Joint Venture having experience in the supply, installation, commissioning and maintenance of Networking/CCTV surveillance system. (the proof of successful installation & commissioning.)
- b) The Bidder must have after sales and services facility in Ranchi. Address of Local Service Centre with proper evidence to be provided. (Attach Proof)
- c) Certified copies of abridged balance sheets along with profit & loss account of the firm (tenderer) in support of annual financial turnover during the last 3 years, should be enclosed. The bidder should have minimum turn over of 100 lakh in the last three years.
- d) The Bidder must have been in this business of Networking/CCTV for at least three years and must have successfully completed in any Govt. organization /PSU / University / Institution. (Copy of work orders to be enclosed) .
- e) The bidder must be an authorized dealer for supply and maintenance of CCTV. Proof of being authorized dealer must be attached.
- f) The Biding firm/company/firms in sole capacity or in Joint Venture must be registered under relevant act as Sales Tax /Vat Registration or company act (Attach proof) for CCTV camera, Networking and its accessories.
- g) In case of bidder, being a joint venture, the turn over and work experience shall be considered in combination of both partners. Either of the parties of joint venture must be registered locally for Valid Sales Tax Registration Certificate/ VAT Certificate.
- h) Undertaking as given in the Tender Document.
- i) Valid Sales Tax Registration Certificate/ VAT Certificate.
- j) Bidder shall provide project plan for the procurement & implementation.
- k) All documents of Technical bid must be spirally bound with proper indexing.
- l) Each page of the Tender Document must be signed by the bidder and must be attached with the Technical bid otherwise the tender shall liable to be rejected.

2. Bidding Process

The bidding will be a two stage bidding process and each bidder will submit two envelopes as Indicated below:

(2.1) Envelope 1 - Technical Bid

This envelope must contain the following (along with document mentioned in Eligibility Criteria):

- (a) Proof pertaining to the eligibility of the Bidder i.e. copies of the income tax returns for the preceding three years (i.e. for the years **2013-14, 2014-15 and 2015-16**), copies of the **work order and work completion** certificates in respect of similar work executed in Central Govt. Department, State Govt. Department Public sector undertaking Organization Public sector Banks. Criteria, Copy of the registration of the firm/company and copy of the dealership certificate from the Original equipment manufacturer.
- (b) Bidder's General Information.
- (c) Compliance with Technical Specifications of System Equipments.
- (d) Details of Service / Support Infrastructure.
- (d) Acceptance of all Terms & Conditions as mentioned in the Notice Inviting Tender,
- (e) Product Brochures containing detailed description of essential technical and performance characteristics of offered equipment.
- (f) Manufacturer's Authorization form for all quoted items.
- (g) Audited Balance Sheet and Profit & Loss Account statements (certified by a practicing Chartered Accountant) for the last three financial years.
- (h) Undertaking to provide two year On-site Warranty and CMC on all product including of NVR system;
- (i) **Earnest Money Deposit (EMD)** by way of Demand Draft for an amount of Rs. 150000/ (One Lac Fifty Thousand only) in favour of **MEMBER SECRETARY, JZA, Ranchi**
- (j) **Cost of tender document** Rs. 1000/- in the form of Demand Draft in favour of **MEMBER SECRETARY, JZA, Ranchi** or Copy of receipt in case Tender document purchased from our office.
- (k) The products proposed to be used should be from reputed brands in their fields, having certifications like CE/FCC/ISI etc.

(2.2). Envelope 2 -- Financial Bid

This envelope will contain the Bill of Quantities duly priced.

3. The envelopes of technical and financial bid should be enclosed in bigger envelope labeled as CCTV surveillance System. Incomplete tenders shall not be accepted.

4. Technical Evaluation: Stage 1

Technical bids will be opened at the schedule time and place for evaluation by the Tender committee of Jharkhand Zoo Authority. Power Point Presentation on the concept plan will be required for this evaluation. Bidders will come prepared for it and the evaluation process may be spill over the time. After the presentation is over, the bidder found technically qualified will be invited for opening of the financial bids in their presence.

(i) The evaluation process in transparent and marking will be given for each parameter's. At this stage, followings things will be examined and marks will be accorded, subject to the maximum limit, shown against the criteria. Power Point presentation particularly on concept plan would be required and all bidders should come prepared with presentation. After power point presentation, the bidder must submit the soft copy of the presentation to JZA.

S.N.	Parameters	Maximum marks
1.	Qualification and competence of the key staff for the assignment/job (Technical evaluation)	
(i)	General qualification	05
(ii)	Adequacy/Suitability for the project/items of work in hand (i.e the job for which tender is being offered) as per past experience.	20
2.	Adequacy of the Concept plan:-	
(i)	Concept Plan	10
(ii)	Appropriateness of work plan and methodology proposed etc. (i.e. a written report about understanding of the objectives (10), how to implement the job (10), Design of the project (05), layout plans (10), proposed methodology and programme for carrying out the activities (15).	50
(iii)	Visual impression as to how the facility would work on completion.	05
(iv)	List of the materials proposed to be used in implementation of the project with detailed technical specifications.	10
	Total	100

(ii) Each responsive tender proposal will be given a technical score at Stage-1. A Tender proposal shall be rejected at this stage if it does not get the minimum technical score of 70 points out of the total 100 points. Only such tender proposals which would get minimum 70 marks would qualify for the next round, i.e. opening of Financial Bid.

5. Opening of Financial Proposal (Bid) stage - 2

After the presentation is over, the consultants/firms found technically competent by the Tender committee will be eligible to participate in the opening of financial bid. Financial bid will be opened in presence of technically qualified bidders at appropriate time. The information regarding the opening of financial bid shall be communicated to them.

6. Award of the Contract:

Jharkhand Zoo Authority will award the contract to the successful bidder for implementation. The successful bidder has to sign a contract for implementation of the project and he has to complete the project within 90 days from the date of issue of the order. In case of successful bidder being a joint venture, the first party shall be held responsible for all obligations.

7. Security Deposits:

The successful bidder shall submit a security deposit @ 10% of the total contract value, within the stipulated time.

The security deposit shall be refunded/adjusted in the CMC after completion of the project.

8. GENERAL TERMS & CONDITIONS

1. The tender forms will be available on all working days.
2. The Technical Bid should accompany a Demand Draft of Rs. 150000/- (Rupees One Lac Fifty Thousand Only) drawn on any nationalized Bank in the Name of "Member Secretary, Jharkhand Zoo Authority" payable at Ranchi.
In case of tender document downloaded from our web site tender document fee of Rs. 1000/- (Nonrefundable) in the form of Demand Draft of any nationalized bank in the Name of "Member Secretary, Jharkhand Zoo Authority, Chakala, Ormanjhi, Ranchi" or
In case document purchased from our office, receipt should be enclosed. Tender received without EMD or Tender Fee of lesser amounts will be summarily rejected.
3. No alteration or amendments shall be allowed after submission and opening of the tenders.
4. The "Technical Bid" and "Financial Bid" put on the top of the envelope shall be put in one big envelope. The big envelope should be addressed to the Member Secretary, Jharkhand Zoo Authority, Ormanjhi, Ranchi-835219 and must reach either by **speed post / Courier / Person drop in tender box** on or before the specified time/date.
5. Rate should be clearly written in the columns specified. All erasures and Alterations made while filling the tender must be attested by initials of the tenderers. Over writing of figures is not permitted, failure to comply with either of these conditions will render the tender void. No advice of any change in rate or conditions after opening of the tender will be entertained.

6. Each page of the tender documents should be signed by the person or persons submitting the tender in token of his/their having acquainted himself/themselves with the General Conditions of the Contract, Scope of work, Specifications, Special Conditions, etc., as laid down. Any tender with any documents not so signed is liable to be rejected.
7. The tenders submitted on behalf of the Firm shall be signed by all the partners of the Firm or by a partner who has the necessary authority on behalf of the firm to enter into the proposed contract similarly in case of a company, only the person authorized by the company/firm can sign. Otherwise the tender is liable to be rejected by the JZA.
8. The list of technically qualified bidders will be published on the Notice Board of JZA on the same day or after technical evaluation.
9. The financial bids of technically qualified bidders will be opened same day or any other the day that will to communicated/intimated to bidders.
10. Tender shall remain open for acceptance by the JZA for a **period of Three Months** from the date of opening the financial bid which may be extended by mutual agreement and the tenderers shall not cancel or withdraw the tender during this period/extended period
11. The Member Secretary, JZA, reserves all rights to reject any tender including of those tenderers who fail to comply with the instructions without assigning any reason what so ever and does not bind itself to accept the lowest bid or any specific tender. The decision of Member Secretary, JZA in this regard shall be final and binding.
12. The corrigendum may be uploaded on the website as per the needs. The corrigendum will also be part of tender document. So the bidder are advised to visit the website before submission of bid.
13. In case of any dispute arising with regards to this tender or its conclusion, the decision of the Member Secretary, JZA shall be final.
14. The project completion period is three months from the date of issue of work order.

9. Site :

The bidders are advised to visit the site where the CCTV and its accessories are going to be installed in Bhagwan Birsa Biological Park. Initially the control room is planned at the Change Room building but in due course of time the control room will be shifted at premises of main gate, to be constructed shortly. The cost of shifting the control room and its accessories will be borne by successful bidders.

10. Project implementation

The Project will be implemented in single phase, covering Bhagawan Birsa Biological Park, Ormanjhi, campus (All Cages at different locations), Important places, the entry gates of JZA campus and aquarium which is opposite side of park and an additional display to be established at the Office of Member Secretary which is also

opposite of park, etc. Approximate requirement is as follows: -

- (a) CCTV Surveillance System with required accessories.
- (b) Networking including OFC & Cat 6 cabling with required accessories required for CCTV Surveillance.
- (c) Networking should be done through star topology only.

The item-wise **specification** is given below

Schedule A : Specification of items

**FIXED IP NETWORK DOME POE CAMERA FOR INDOOR SURVEILLANCE,
Brands;- PELCO/SONY/SISCO.**

Specification	Description
Image sensor	1/3" Minimum 2 or above Megapixel progressive scan CMOS
Effective pixels	1920H X 1080V or above
Min. illumination	0.1 Lux /F2. 1 (color),0Lux /F2.1 (IR on)
S/N Ratio	More than 50 dB
Camera features	
IR LEDS Length	30 Mtr.
Backlight compensation	BLC/HLC/DWDR
White Balance	Auto/Manual
Privacy Masking	4 areas
Lens	
Focal Length	2.8mm-12mm
Focus control	FIXED
Lens Type	FIXED
Video	
Compression	H.264/MJPEG
Resolution	Minimum 2MP 1920 X 1080 or Above
Frame rate (Main stream/Sub stream)	2.0/1080p(~25/30fps)/D1 (1~25/30 fps)
Corridor mode	Support
Network	
Ethernet	RJ-45 (10/100 Base –T)
Protocol	IPv4/Ipv6,HTTP,HTTPS<TCP/IP,UDP,Udpnp,ICMP,IGMP, RTSP,RTP,SMTP,NTP,DHCP,DNS,PPPOE,DDNS,FTP,IP Filter, QoS
Compatibility	ONVIF
User Access	20 users simultaneously
Smart phone	iphone ,ipad ,android, Windows Phone
General	
Power Supply	DC 12V,PoE (802.3 af)
Working Environment	-10°C~+60 °C, 10%-90%RH
Ingress Protection	IP66
Certification	CE,FCC

FIXED IP NETWORK BULLET PoE CAMERAS

Brands :-PELCO/SONY/SISCO.

Specification	Description
Image sensor	1/3" Minimum 2 or above Megapixel progressive scan CMOS
Effective pixels	1920H X 1080V or above
Scanning System	Progressive
Min. illumination	0.045 lux /F2. 1 (color),0Lux /F2.1 (IR on)
S/N Ratio	More than 52 dB
Camera features	
IR LEDS Length	30 Mtr
Day /Night	Auto(ICR)/Color /B/W
Backlight compensation	BLC/HLC/DWDR,AGC,AWB
White Balance	Auto/Manual
Privacy Masking	4 areas
Lens	
Focal Length	3.6mm-12 mm
Focus control	FIXED
Lens Type	FIXED
Video	
Compression	H.264/MJPEG
Resolution	Minimum 2MP 1920 X 1080 or Above
Frame rate (Main stream/Sub stream)	2.0/ 1080p (1-25/30fps) or above
Corridor mode	Support
Network	
Ethernet	RJ-45 (10/100 Base –T)
Protocol	IPv4/lpv6,HTTP,HTTPS<TCP/IP,UDP,Udpnp,ICMP,IGMP, RTSP,RTP,SMTP,NTP,DHCP,DNS,PPPOE,DDNS,FTP,IP Filter,QoS
Compatibility	ONVIF
User Access	20 users simultaneously
Smart phone	i phone ,i pad ,android, Windows Phone
General	
Power Supply	DC12V,PoE (802.3 af)
Working Environment	-10°C~+60 °C, 10%-90%RH
Ingress Protection	IP66
Certification	CE,FCC

PTZ DOME CAMERAS

Brands :-PELCO/SONY/SISCO.

Specification	Description
Image sensor	1.3 Megapixel (1280H x 960V), 720P HD resolution 360° continuous horizontal rotation,-2°~90° vertical auto-rotation,180°continuous monitoring
Resolution	1280 x 960
Image Sensor	1/3" CMOS Sensor
S / N Ratio	Over 50dB
White Balance	Auto, auto tracking, indoor, outdoor, automatic outdoor, sodium mode, one-push, manual.
Shutter Speed	1 / 1 – 1 / 10,000 sec
Day / Night	True Day / Night, IR-Cut removable
Focal Length	4.7mm to 84.6mm
Optical Zoom	18x
IR Control	Auto / Near light / Far light / OFF
IR Beam Distance	Up to 100 meters
P / T Range	Horizontal: 0°~360° continuous rotation Vertical: -2°~90° auto-rotation, 180°continuous monitoring
Preset	255
PTZ Control	Support free movement, three-dimensional positioning, human-oriented focal length / speed automatic matching, power off memory
Video Compression	H.264
Image Resolution	Main-stream: 1280 x 960 / 1280 x 720 Sub-stream: D1
Protocol	TCP/IP, HTTP, DDNS, DHCP, NTP, PPPoE, FTP, SMTP, RTSP, RTP
Storage	Network storage
Mobile View APP	CALNVRView for iPhone, iPad, Android
Power Supply	AC 12V/5A (±20%)
Power Consumption	48W Max
Protection	IP66 weatherproof, 4000V lightning protection, anti-surge protection
Mounting	Wall Mount
Net Interface	1 RJ45 10 / 100Mbbs
Certificate	CE, FCC, C-TICK

**APPLICATION / DATABASE/ RECORDING / VIEWING / OTHER SERVERS:-
STORAGE SOLUTION(NVR 16CH./ 24CH/32CH.)**

Brands :- PELCO/SONY/SISCO.

Specification	Description
System	
Main Processor	Dual –Core embedded processor
Operating system	Embedded Linux
Video audio	
IP camera input	4/8/16 /24/32 channel
Two –way talk	8 channel input,1 channel out put,RCA
Display	
Interface	1 HDMI, 1 VGA
Play Quality	3MP/1080p/720P
Resolution support	Up to 2304X1926
Display split	1/4/8/9
OSD	Camera title, Time Video loss, Camera lock, Motion detecting ,recording
Compatibility	ONVIF 2.0 conformance
Recording	
Compression	H.264/MJPEG
Resolution	1080p(1920x1080)/720p (1280x720)/D1(704x576/704x480)etc
Record rate	256 mbps
Record mode	Manual ,schedule, continues, Motion detector, Alarm
Video detection &Alarm	
Trigger Events	Recording PTZ Tour, Alarm, Video push, Email, FTP. Snapshot, Buzzer, &Screen tips
Video Detection	Motion Detection ,Video Loss Camera Blank, Temper detection, event triggering recording
Alarm Input	4 channel
Relay output	2 channel
Play back &Backup	
Syno back	1/4/9/
Search model	Time /date /alarm,Md&Exact search, Smart search
Play back function	Play,pause,stop,rewind,fastplay,slowplay,Nextfile,Previousfile,nextcamera,Previouscamera,FullScreen,Repeat,shuffle,Backupselection,Digital zoom
Back up mode	USB Device /Net work/ Internal SATA burner
Network	
Ethernet	1 RJ -45 port (10/100/1000Mbps)
Network function	HTTP,HTTPS<TCP/IP,UDP,Upnp,ICMP,IGMP,RTSP, RTP,SMTP,NTP,DHCP,DNS,PPPOE,DDNS,FTP,IP Filter, QoS, alarm server ,IP search IP camera ,DVR ,NVS and etc
User access	20 users simultaneously
Smart Phone	Iphone,ipad,Android, Windows,Phone
Multiple Networking	Web Viewer, CMS etc

monitoring	
Storage	
Internal HDD	4 SATA ports up to 16TB
Auxiliary Interface	
USB	2 ports
RS232	1 port For PC, Communication & Keyboard
RS 485	1 port ,For PTZ control
General	
Power supply	DC12V/240 Vac,50/60 Hz
Working temperature	-10°C~+55°C
Working Humidity	10%~90%
Certification	CE,FCC

ONLINE UPS

	Specification	Description
	Capacity	10/05 KVA
Input Parameters	Input Voltage	450V. 3 Phase, 4 Wire
	Input Voltage Variation	+25%, -30%
	Input Frequency	50 Hz
	Input Frequency Variation	+/- 10%
	Power walk in	Progressive Over 10 seconds
	Power Factor at Rated Load	1.0 (Unity)
	Operation with Reverse Phase sequence	Possible
By pass Parameters	Bypass supply Voltage	220/230/240 V AC
DC Parameters	Nominal DC BUS Voltage	356 V
	Permissible Dc Voltage Variation	260V - 410 V
	DC BUS OV Ttrip	410 V
	End of Discharge DC BUS	260 V
	Types of Batteries Supported	SMF
	Nominal Batteries Float voltage	356 V
	Max. Batteries Charging Current	7.5A for 20 KVA
	DC Ripple	<20% RMS
	DC Voltage Regulation	+/- 1%
Output Parameters	Output Voltage	220/230/240 VAC 1 Phase
	Frequency	50HZ
	Power Rating at 0.8 p.f	20KVA
	Power Rating at 1.0 p.f	8KW,16KW
	Overload Rating	110% for 60 Minutes 125% for 10 Minutes 150% for 1 Minutes
	Max. Non-Linear Load Permissible	100 % with Crest Factor of 3:1
	Output Voltage Regulation	+/- 1%

	Transient Response for 100 % Load Change	+/- 10%
	Recovery Time	10 Millisecond
	Frequency stability	Unsynchronized +/- 0.1%
	Synchronized	+/- 1HZ, +/- 2HZ,+/- 3HZ
	Maximum Rate of Change of frequency	0.2/0.4HZ per second
	Output Voltage Distortion	<3% at Non Linear Load <2% at Linear Load
	Transfer time synchronized	0 Millisecond
	Transfer time unsynchronized	20 Millisecond
Parameters	Voltage limit for Inverter operation	260V DC to 410V DC
	SMF Battery	26 Blocks of 12V each
	Float charge Voltage	356V DC
	Max. Charging Current	7A for 20 KVA
Mechanical Parameters	Height X Depth X width	1150 mm X 650mm X 450mm
	Weight	275 Kg
	Ventilation	Forced - air cooled
	Cable entry	Front end – Bottom
	Colour/panel finish	Stretched Dark Gray
	Base Caster Wheels	Yes
Environmental Parameters	Operating Temperature	0 degree C to 45 Degree C continuous
	Storage Temperature	0 degree C to 70 Degree C
	Relative Humidity	95 % RH
	Altitude	1000 Meters
	Temperature Derating KVA	1.5%/ degree C between 40 & 50 degree C
	Altitude Derating (KVA)	1%/ 100m between 1000m-2000m

EDGE LEVEL SWITCH (AT CAMERA LOCATIONS)

	Specification	Description
	Product name	8-port GbE L2 PoE Switch
	Switch class	Layer 2
Port Density		
	Total port count	10
	100/1000 Mbps	-
	100/1000 Mbps PoE	8
	Gigabit SFP	--
	Gigabit combo (SFP/RJ-45)	2
Performance		
	Switching capacity (Gbps)	20
	Forwarding rate (Mbps)	15
	Packet buffer (byte)	1.5M

	MAC address table	16K
Power		
	Input	100-240 V AC, 50/60Hz
	Max. power consumption (watt)	229.1
	Total PoE power budget(Watt)	180
Physical Specifications		
Item	Dimensions (WxDxH)(mm/in.)	330 X 230.5 X 44.5/12.99 X 9.07 X1.75
	Weight (kg/lb.)	2.703/5.96

DATA CENTER SWITCHES (MANAGEABLE)

	Specification	Description
	Product name	24-port GbE L2 Fiber Switch (with Backup/Redundant Power Supply)
	Switch class	Layer 2
Port Density		
	100/1000GbE Base-T, Fixed	--
	Open SFP Dual Rate(GbE/FE)	24
	Combo GbE Ports	4
Performance		
	Switching capacity (Gbps)	56
	Forwarding rate (Mbps)	41.67
	Packet buffer (byte)	1.5M
	Packet buffer	12Mbit
	MAC address table	16K
Power		
	Input	100-240 V AC, 50/60Hz
	Max. power consumption (watt)	454
Physical Specifications		
Item	Dimensions (WxDxH)(mm/in)	440 X 270 X 44/10.4 X 10.6 X1.73
	Weight (kg/lb.)	3.72/8.2
	Dimensions (Width)(mm/in.)	512 X 314 X 384/20.15 X 12.36X 15.11
	Weight (kg/lb.)	4.42/9.77
Operating	Temperature	0°C to 50°C/32°F to 122°F

	Humidity	10% to 90% (Non-condensing)
Storage	Temperature	-40°C to 70°C/-40°F to 158°F
	Humidity	5% to 95%RH(Non-condensing)

KVM MODULE

	Specification	Description	QTY
	KVM Requirement	Keyboard, Video Display Unit and Mouse Unit (KVM) for the IT Infrastructure Management at Data Center	
	Form Factor	19" rack mountable	
	Ports	minimum 8 ports	
	Server Connections	USB or KVM over IP	
	Auto-Scan	auto scan servers	
	Rack Access	Local user port for rack access	
	SNMP	The KVM switch SNMP enabled, remote locations	
	OS Support	support multiple operating system	
	Power Supply	Dual power with failover and built-in surge protection	
	Multi-User support	Multi-user access and collaboration	

STANDARDIZED SIGNS FOR CCTV CAMERA LOCATIONS

#	Description	Size
	Size	Board Width = 8" / 12" (For type A and B) Board Width = 12" / 18" / 24" (For type C and D)
	Plate Material	Corrosion resistant Aluminum Alloy as per IRC 67:2001 (Code of Practice for Road signs)
	Plate Thickness	Minimum 1.5 mm
	Retro-Reflective sheeting for sign-plate	Weather-resistant, having color fastness
	Other Specifications	As per IRC 67:2001 (Code of Practice for Road signs)
	Mounting	Can be mounted on wall or pole (appropriate mounting brackets to be provided)
	Design	As per actual signage diagrams

CAMERA POLES

#	Details	
	POLE for outdoor camera, Supply and Erection of Pole for Installation of Surveillance Camera) includes, Pole charges and Civil works (15 Feet height, 4 inches dia, 3 feet will be buried in ground and fixed with concrete and rest 12 feet will be outside the ground).	

SCHEDULE B – BILL OF QUANTITY

#	Description	QTY
1	Supply and installation of Video Backup Solution 24/32 CH.(NVR) With 4TB X 4 Storage in 5Nos. Supply and installation of Video Backup Solution 16 CH.(NVR) With 4TB X 2 Storage in 1 No.	06
2	Supply and installation of Anti-virus Software	02
3	Supply and configuration of video management software	90
4	Supply and installation of Desktop Computer with all accessories for Management:-Core-i7, 1TB HDD, 8GBRAM , VGA Cards of 2GB, OS Windows 10, 20"LCD DISPLAY.	02
5	Supply and installation of 24-port GbE L2 Fiber Switch (with Backup/Redundant Power Supply)	02
6	Supply and installation of L2 Switches Poe 8 Port for end point	30
7	Supply and installation of Outdoor Fixed Bullet Poe Bullet Camera	64
8	Supply and installation of PTZ Dome Camera with accessories	02
9	Supply and installation of 4U Outdoor Enclosure IP 66 Rated construction for dust and water protection rating Welded construction frame with high quality powder for weatherproof coating (UV & heat resistant) to ensure best quality product Standard 19" Rack mount design Wall-mount design with Pole fixing provision Fan mounting provision with ventilation provision Cable insertion on Top & Bottom panel to provide easy cable entry Provide reliable and long term protection to install IT, electrical, electronics and telecommunication equipment through rugged design Front section with Open able door with lock provision Dimension (W x D) = 550 x 400mm 42U Rack With Cantilever Shelve , Cable Manager,12 Socket PDU for Main Control Room	30 01
10	Supply and installation of Indoor Fixed Dome PoE Camera	24
11	Supply and installation of Networking (Passive Components, CAT6 UTP Cable(2 Box), STP Cable(2300Mtrs),UTP Connectors(1 Box)STP Connectors(300 No),12 Port LIU with 6 port Loaded with pigtail and coupler SC Type single mode simplex(35 No),24 Port Patch Panel unloaded (35 No),STP Key Stone (115 No),UTP Patch Panel CAT6 Unloaded (2Nos),CAT6 Key Stone (48Nos),CAT6 patch Cord 3 Mtrs(280 No),Fiber SCSM Simplex Fiber(70 No),LIU Blank Panel SM Simplex (35 No),24 Port Loaded LIU with SC Pigtail and coupler single mode simplex (6 No)	
12	Supply and installation of OFC with accessories for Networking - Laying of Armored OFC Cable –(Single Mode) Digging & Refilling of 2 ft Depth of Soft /	40km

	Hard soil for the laying of 4 Core Outdoor OFC Cable. Road Cutting, Trenching and relaying on concrete / black top road for lying of 4 Core Outdoor Armored OFC Cable. Fibre SC-Style, Single mode, 19-inch Rack, mount Patch Panel, 1U, is RoHS Compliant Aluminum Powder Coated Metal Box and Fully Loaded with SC adapter Plates Couplers with SC-Style Pigtails. HDPE Pipe - 2" / 3", 1 inch PVC pipe and channel	
13	Supply and installation of Server (Computers) for Network Monitoring: Intel Xeon 3.1/4gb/1TB/20"/Windows Server 2008 Or above/KB & Mouse wireless/Ethernet 1GBE 2 Port	01
14	Supply and installation of Professional LED Displays – 55" (Full HD) mounted:- LED DISPLAY Resolution : 1920 x 1080 minimum, High Contrast Ratio in 02 Nos. Professional LED Displays – 32" (Full HD) mounted:- LED DISPLAY Resolution : 1920 x 1080 minimum, High Contrast Ratio in 01 Nos.	03
15	Supply and installation of Network Color Laser Printers:-64MB RAM/Resolution 2400X600, 18PPM(Color/Mono)	01
16	Supply and installation of Electrical Cabling & Necessary Illumination Devices:- Electrical wiring with Armored Cable and its underground laying. Electrical Wire specification: 3 x 10 mm 3 core cable) Copper wire.	5000 mtrs/ each core
17	Supply and installation of Comfort AC 1.5 TON with Accessories.	04
18	Supply and installation of ON LINE UPS with 1 Hrs Backup for Centralized Power, Capacity: 10 KVA in 2 Nos. ON LINE UPS with 1Hrs Backup for Centralized Power, Capacity: 05 KVA in 2 No.	04
19	Supply and installation of Supply and Installation of Pole in size 15 Fit with weather proof box for electrical wiring termination and to place Power supply adaptor for Camera's and to keep Stabilizer for power supply to Camera Type Standard	50
20	Supply and installation of Single Mode Fiber transiver -SFP-LX-10-D 1000 Base LX.	60

The number of Camera and its accessories and the length of cable is tentative and may increase/decrease at the time of implementation. However the rate must be quoted for above-mentioned quantities. Bidder must provide the details of product /item with their brand name. Any deviation of the quantity is not permitted. Any deviation may lead to disqualification.

11. Functional Requirement (Solution)

1. As described in the requirement, the solution should be scalable.
2. The solution must also give an option to view small group of cameras, important to individual Cages, to individually view it without disturbing the main recording or

setup.

3. The solution should give option to record the video on different frame rates for individual camera at central location.
4. The recording or live view of the cameras should be available to authorized personnel only.
5. Future possibility of coverage/adding additional locations/cameras, if required.
6. The recording resolution and frame rate for each camera shall be user programmable.
7. All the cameras should be provided with suitable surge suppressor against lighting in power, signal & video lines.
8. All the cameras and equipment meant for outdoor installations shall be suitable to work from 0°C to 60°C with relative humidity up to 95% non-condensing.
9. All camera recording shall have camera IDs & location of recording as well as date / time stamps and recording of real-time mode.
10. In order to optimize memory while recording, video shall be compressed using MPEG4 or better standard over the IP network. Once on the network, video can be viewed on a control room workstation or on a monitor using a hardware decoder.
11. The system shall be triplex, i.e. it should provide facility of viewing, recording and replay simultaneously.
12. The bidder should propose most suitable, economical integrated system solutions and development of an effective network to provide 100% uptime for the entire links in a manner that operational data is not lost in case of failure of equipment or communication network and provision of suitable disaster recovery mechanism.

12. Payment Schedule:

Payment terms & conditions: All the payments for the supply of material relating to said work would be made after satisfactory inspection/completion/commissioning of system, subject to work being executed in accordance with this Contract and scrutiny by Member Secretary, J.Z.A., Ranchi and submission of bill along with measurement sheets.

There will be different sub stages of the payments as given below:

- (i) 50% payment will be made on the supply and verification of availability of items at the site. The items will be verified on the basis of the bill and accordingly payment will be made.
- (ii) After completion of the project the remaining 40% will be made.
- (iii) The 10% amount will be kept as a reserve for CMC services and it will be paid to the bidder proportionately on the successful completion of CMC. However this amount may be paid to the bidder against the bank guarantee of the equal value up to the specified time of CMC.

13. Following are the designated places, JZA wishes to install CCTV Facility.

- (a) JZA, Main entrance gate.
- (b) All Animal cages.
- (c) Aquarium.
- (d) Any other area desired by JZA.
- (e) Control Center.

14. Operational Guidelines of CCTV:

- (a) The CCTV camera to be IP PoE based.
- (b) Ensure that the products and solutions adhere to open standards i.e. ensure that there are no proprietary standards leading to locking of technology / solution.
- (c) Basic video management system functionality needed to view recorded video, perform forward and rewind function etc.
- (d) Video data to be stored for 21 days minimum on the primary storage (Disk based storage).
- (e) In some cases if back up of data is considered essential, then it can be stored at alternate place, one of DVD's or external hard Disk
- (f) Power backup to be ensured for cameras.
- (g) For outdoor cameras, in open areas prone to heat, dust, rainfall, the specification may be slightly different and also the casing should be of better specification.
- (h) The Vendor shall not disclose any information provided to him by the Purchaser except to the extent required to execute the contract

15. SPECIAL TERMS AND CONDITIONS

- 1. Bidder MUST visit the site of installation & Commissioning of the CCTV System and understand the nature & scope of the work and doubts of any nature and should be got clarified before quoting. He should also identify strategic locations and discussion with JZA to place the CCTV cameras so as to have maximum

- coverage of the work places and other locations which required to be monitored.
2. Requirement quoted above is approximate; it can be changed as per actual requirements (may increase/decreases).
 3. Rate should include charges for removal of debris out of premises, removing stains, cleaning the site thoroughly and restoring it to original condition where work is undertaken.
 4. Quoted rate should be workable and rate should include all taxes, duties, octroi, levies, Payment of wages as per Act, etc. and should be firm for the entire contract period. No variation of rates will be allowed. All components of the CCTV System supplied should conform to the stipulations as in the relevant I.S. codes (Latest Edition) BIS specification shall be followed as applicable . However, in the absence of the same the decision of JZA will be final.
 5. All civil, electrical, carpentry work will be done by the contractor and this cost also to be included in the amount quoted.
 6. No advance payment will be made by the JZA in any case.
 7. The products proposed to be used should be from reputed brands in their fields, having certifications like CE/FCC/ISI etc.
 8. The Contractor shall observe all the safety precautions for the safety of the labour and the employees of the JZA during execution of works. He would be responsible for the safety of persons, employed by him.
 9. The contractor shall be responsible for injury to persons or things and for damages to the property which may arise from omission or neglect of the contractor or their employees, whether such injury or damages arises from carelessness, accident or any other cause whatsoever, in any way connected with carrying out of the work.
 10. All the conditions of the contract shall be binding on the Contractor.
 11. The Contractor shall comply with all the applicable Acts, Rules, Regulations, requirement of Law (s) for entering into contract and the JZA will not in any way be liable or responsible for any default/irregularities/penalties on the contractors part.
 12. The contractor shall comply with the provisions of Contract, Labour Regulation & Abolition Act, 1970, Minimum Wages Act and all other labour laws and other Statutory Regulations (both Central and States) that may be enforced from time to time by the appropriate authorities. The JZA shall not be held responsible for any penalty on account of failure to adhere to the above labour regulations, etc. The contractor should be responsible to fulfill all the obligations in connection with the workers employed by the contractor for the purpose of the contract and all the Statutory and other liabilities if any including minimum wages, leave salary, uniform, ex-gratia, gratuity, ESI, Provident Fund, Workman Compensation, if any, etc. in connection therewith shall be on the contractor account and payable by the concerned contractor.
 13. The contractor should obtain necessary permission that may be required for the purpose of this contract from such authorities as may be prescribed by law from time to time.
 14. The contractor shall be fully responsible and shall compensate the JZA in the event of any damage to men or material, injury/damage or death as the case may

be, caused directly or indirectly due to the negligence of the contractor or his agents and / or his employees or workmen.

15. The contractor should not employ any person who is prohibited by law from being employed for fulfilling obligations under this contract.
16. Any act of indiscipline / misconduct/ theft/ pilferage on the part of any employee engaged by the contractor resulting in any loss to the JZA in kind or cash will be viewed seriously and the JZA will have the right to levy damages or fine and / or even terminate the contract forthwith.
17. In case of any default or failure on your part to comply with all/ anyone of the terms/ conditions, the JZA reserves to itself the right to take necessary steps to remedy the situation including, inter-alia, the deduction of appropriate amounts from dues otherwise payable to you and/or by taking recourse to appropriate recovery proceedings.
18. The contractor should not at any time do, cause or permit any nuisance on the site/do anything which shall cause unnecessary disturbances or inconvenience to the occupants/ visitors at site or near the site of work.
19. On site, lockable storage space will be given as per availability, the security of which will be the responsibility of the contractor. The JZA will not be responsible for contractor's materials. The contractor may be required to vacate the storage space as per exigency without any extra cost.
20. The contractor shall not directly or indirectly transfer, assign or sublet the contract or any part of it.
21. The CCTV Surveillance System after successful commissioning and testing will be duly handed over to the JZA after which the work completion certificate will be issued.
22. The JZA reserves the right to check the progress of the work and adherence to the technical Specifications etc. any time during the installation phase.
23. The agreement may be terminated by the JZA in case the Party does not adhere to the terms of contract.
24. All payments by the JZA under this contract will be made only at Ranchi by an account payee Cheque or NIEFT / RTGS after satisfactory completion of work and submission of bill(s) thereof.
25. All disputes arising out of or in any way connected with this Agreement shall be deemed to have arisen at Ranchi and Courts in Jharkhand only shall have jurisdiction to determine the same.
26. The exact location and other details can be ascertained by visiting the site. Location/site/number of equipment, length, of cables etc. can be altered on the spot, as per requirement on the direction of the Member Secretary JZA other details are given in the Bill of Quantities.

16. CMC/AMC

1. The complete system shall be **under two year warranty and CMC** after successful testing, commissioning & handing over to JZA. It will be mandatory on the part of the contractor to enter into a **3 year Annual Maintenance Contract**

with JZA from the date of culmination of warranty and CMC period. It is also mandatory for bidders to quote the rate of 3 years AMC annually. However, it should not be more than 6% of the project cost. The decision of AMC shall be taken minimum three months prior to expiry of CMC. The rate of AMC shall not be considered for award of the work.

2. During this 3 years period, contractor has to undertake preventive maintenance & break down maintenance, if any. Contractor shall also ensure the availability of spares during AMC period.
3. Contractor shall make necessary arrangements for keeping the sufficient spares at site to minimize the down time.
4. **Training to be given to JZA staff for operation & maintenance, troubleshooting, user level training pertaining to system after successful commissioning.**

17. For Commercial Bid/Financial Bid

Note: The cost shall include

1. Supply, installation and commissioning of CCTV cameras with appropriate cabling work with material.
2. Payment will be calculated on the basis of actual work done in term of no. of cameras including required hardware and software.
3. The CCTV cameras to be IP PoE based.
4. Number of locations and number of CCTV cameras may be increased or decreased by J.Z.A..

18. Time Frame:-

The vendor should ensure the completion of the work within 90 days from the date of awarding of the contract.

NOTE –If L1 is unable to complete this project in 90 days, OR if L1 fails to successfully carry out the work, then L2 will be requested to match L1 rates and carry out the work and so on.

19. Force majeure:

If either of the parties suffer delay in due execution of their contractual obligation

due to the operation of one or more of the force majeure events such as but not limited to, natural disaster, War, earthquake, strikes, Lockouts, fire, epidemics, riots, uncontrollable events, civil commotions etc. the agreed time for the completion of respective obligations shall be extended by a period of the time equal to the period of the delay occasioned by such events. On the occurrence and cessation of any such event, the party affected thereby shall give notice in writing to the other party. Such notices to be given within 15 days of occurrence/cessation of the event concerned. If the force majeure conditions continue beyond 30 days the parties shall mutually decide about the future course of action.

20. Liquidated Damages

In case of delay in completion of the contract, liquidated damages (L.D.) shall be levied @ 1% of the full value of uncompleted portion of work per week (part of week to be treated as one week) subject to a maximum of 10% of total contract value. If the uncompleted work, restricts the operation of complete system then LD shall be applicable to total value of contract with approval of Competent Authority.

21. Contract has following activities:

- a) Supply of equipment's.
- b) Creating video network
- c) Installation, Integration and Site Acceptance Testing.
- d) Onsite training.

Delay in any stage of work shall invite Liquidated Damages (LD) according to value of the activity as defined above. LD shall be calculated on per system basis and it shall not be linked with the value of complete supply.

TECHNICAL BID

(To be enclosed in separate sealed cover)

Name and address of the bidder:

Note: A DD for Rs.150000/- (EMD) and other DD for Rs. 1000/- (Cost of Tender documents) should be enclosed with this bid.

1. Name of the bidder
 - a) Full postal address

 - b) Full address of the premises

 - c) Telephone number
 - d) E-mail
2. Total annual turn-over(value in Rupees)(Last Three year)
(Copy of Balance Sheet / Audited Statement / ITR, etc. to be attached as proof)
3. Past work details for 3 years (Attach proof)
4. Whether similar job work undertaken in the past, if so details.
(Samples to be displayed if required)

Customer	Quantity supplied	Year
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Signature and seal of the bidder

FINANCIAL BID

(To be enclosed in separate sealed cover)

* Technical specification/brands of items as given in “schedule A” published in tender document.

A. Project Completion:

Sl.	Item Description	Qty.	Brand Name of product	Unit Rate	Total	Taxes	Total
01	Video Backup Solution 24/32 CH.(NVR) With 4TB X 4 Storage	05					
02	Video Backup Solution 16 CH.(NVR) With 4TB X 2 Storage	01					
03	Anti-virus Software	02					
04	video management software	90					
05	Desktop Computer with all accessories for Management:-Core-i7 1TB HDD, 8GBRAM , VGA Cards of 2GB, OS Windows 10, 20"LCD DISPLAY Resolution	02					
06	24-port GbE L2 Fiber Switch (with Backup/Redundant Power Supply)	02					
07	L2 Switches Poe 8 Port for end point	30					
08	Outdoor Fixed Bullet Poe Bullet Camera including installation.	64					
09	PTZ Dome Camera with accessories including installation	02					
Networking (Passive Components)							

10	CAT6 UTP Cable	02Box					
11	STP Cable	2300Mtr					
12	UTP Connectors	1 Box					
13	STP Connectors	300 No					
14	12 Port LIU with 6 port Loaded with pigtail and coupler SC Type single mode simplex	35 nos					
15	24 Port Patch Panel unloaded	35 nos					
16	STP Key Stone	115 nos					
17	UTP Patch Panel CAT6 Unloaded	02 nos					
18	CAT6 Key Stone	48 nos					
19	CAT6 patch Cord 3 Mtrs	208 nos					
20	Fiber SCSM Simplex Fiber	70 nos					
21	LIU Blank Panel SM Simplex	35 nos					
22	24 Port Loaded LIU with SC Pigtail and coupler single mode simplex	06 nos					
23	42U Rack With Cantilever Shelve , Cable Manager,12 Socket PDU for Main Control Room	01 no					
24	4U Outdoor Enclosure IP 66 Rated construction for dust and water protection rating Welded construction frame with high	30 nos					

	<p>quality powder for weatherproof coating (UV & heat resistant) to ensure best quality product Standard 19" Rack mount design Wall-mount design with Pole fixing provision Fan mounting provision with ventilation provision Cable insertion on Top & Bottom panel to provide easy cable entry Provide reliable and long term protection to install IT, electrical, electronics and telecommunication equipment through rugged design Front section with Open able door with lock provision Dimension (W x D) = 550 x 400mm</p>						
25	Indoor Fixed Dome PoE Camera including installation	24					
26	<p>OFC with accessories for Networking- Laying of Armored OFC Cable –(Single Mode) Digging & Refilling of 2 ft Depth of Soft / Hard soil for the laying of 4 Core Outdoor OFC Cable. Road Cutting, Trenching and relaying on concrete / black top road for lying of 4 Core Outdoor Armored OFC Cable. Fibre SC-Style, Single mode, 19-inch Rack, mount Patch Panel, 1U, is RoHS Compliant Aluminum Powder Coated Metal Box and Fully Loaded with SC adapter Plates Couplers with SC-Style Pigtailed. HDPE Pipe - 2" / 3", 1 inch PVC pipe and channel</p>	40Km					

27	Server (Computers) for Network Monitoring: Intel Xeon 3.1/4gb/1TB/20"/Windows Server 2008 0r above/KB & Mouse wireless/Ethernet 1GBE 2 Port	01					
28	Professional LED Displays – 55" (Full HD) mounted:- LED DISPLAY Resolution : 1920 x 1080 minimum, High Contrast Ratio	02					
29	Professional LED Displays – 32" (Full HD) mounted:- LED DISPLAY Resolution : 1920 x 1080 minimum, High Contrast Ratio	01					
30	Network Color Laser Printers:-64MB RAM/Resolution 2400X600, 18PPM(Color/Mono)	01					
31	Electrical Cabling & Necessary Illumination Devices:- Electrical wiring with Armored Cable and its underground laying. Electrical Wire specification: 3 x 10 mm 3 core cable) Copper wire.	5000Mtr each core					
32	Comfort AC 1.5 TON with Accessories.	04 Nos					
33	ON LINE UPS with 1 Hrs Backup for Centralized Power, Capacity: 10 KVA	02					
34	ON LINE UPS with 1Hrs Backup for Centralized Power, Capacity: 05 KVA	02					
35	Supply and Installation of Pole in size 15 Fit with weather proof box for electrical wiring termination and to place Power supply adaptor for Camera's and to keep Stabilizer	50					

	for power supply to Camera Type Standard						
36	Supply and installation of Single Mode Fiber transiver -SFP-LX-10-D 1000 Base LX.	60					
	Total Amount						

B. AMC for 3 years

Sl.no.	Item Description	Rate	Taxes (if any)	Total
1	3rd Year			
2	4th Year			
3	5th Year			

Note 1. The cost of AMC should not be more than 6% of the total project cost. However, the cost of AMC shall not be considered for award of the work.

Signature and seal of the bidder

**PROFORMA FOR SUBMITTING ELIGIBILITY
REQUIREMENT AND UNDERTAKING**

To

The member Secretary
Jharkhand Zoo Authority
Chakala, Ormanjhi, Ranchi

Sub: Submission of Tender for “Supply, Installation of CCTV System with data networking including CMC”

Sir / Madam,

Having examined the conditions of contract and specifications including addenda, I/we, the undersigned, offer to undertake Supply, Installation, Testing & Commissioning including CMC & data networking of CCTV Surveillance System at JZA, Ranchi, in conformity with the specifications, terms & conditions of Tender.

i. I/We agree to abide by the terms and provisions of the said conditions of the contract and provisions contained in the notice inviting tender. I/We hereby unconditionally accept(s) the tender conditions of JZA tender documents in its entirety for the above work. It is certified that I/we have not stipulated any condition(s) in our tender offer. In case any condition(s) are found in our tender offer violated after opening tender, I/We agree that the tender shall be rejected and JZA shall without prejudice to any other right or remedy be at liberty to forfeit the EMD absolutely.

- i. I/We hereby submit the earnest money Tender for the above (INR) mentioned work in the form of demand draft.
- ii. That, I/We declare that I/we have not paid and shall not pay any bribe to any officer of JZA for awarding this contract at any stage during its execution or at the time of payment of bills, and further if any officer of JZA asks for bribe/gratification, I shall immediately report it to the JZA authorities.
- iii. That, I/We undertake that JZA’s standard document shall form part of contract agreement.
- iv. That I/We undertake to complete the project within 90 days from the date of issue of work order.

We understand that you are not bound to accept the lowest or any bid, you shall receive.

Thanking you

Yours faithfully

Dated:

Enclosures

Signature of Bidder

Name:.....

Telephone:.....

Witness.....

Signature.....

Address.....